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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,186	04/10/2001	Tianfu Jiang	TJK/166	4183
7590	11/17/2003		EXAMINER	
Timothy J Keefer Wildman Harrold Allen & Dixon 225 West Wacker Chicago, IL 60606-1229			GRiffin, WALTER DEAN	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 11/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/807,186	JIANG, TIANFU	
	Examiner Walter D. Griffin	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 20 June 2003.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-25 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) 1,2,7,10,13 and 16 is/are allowed.

6) Claim(s) 11,12,14,17,18 and 24 is/are rejected.

7) Claim(s) 3-6,8,9,15,19-23 and 25 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
 a) The translation of the foreign language provisional application has been received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION*****Response to Amendment***

The claim rejections under 35 U.S.C. 112 and 103 as described in paper no. 9 have been withdrawn in view of the amendment filed on June 20, 2003.

***Specification***

~~The substitute specification filed June 20, 2003 has not been entered because it does not conform to 37 CFR 1.125(b) and (c) because the substitute specification has been filed containing claims.~~

***Claim Objections***

Claims 3-6, 8, 9, 14, 15, 19-23 and 25 are objected to because of the following informalities: In line 3 of claim 3, the expression “few amount of” should be deleted and the word “and” should be inserted before the word “phosphorus”. In line 3 of claim 4, the word “parallel” should be deleted and the expression “in parallel” should be inserted after the word “arranged”. In line 3 of claim 5, the word “hydrochlorides” should be deleted and the expression “hydrochloric acid” should be inserted therefor. In line 5 of claim 6, the word “collected” is misspelled. In line 4 of claim 8, the word “and” should be inserted before the word “phosphorus”. In lines 2 and 5 of claim 9, the word “reacting” should be changed to “reaction”. In line 3 of claim 14, the word “continue” should be changed to “continuous”. In line 4 of claim 15, the word “and” should be inserted before the word “phosphorus”. In line 4 of step (6) of

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claim 20, the word “hydrochloride” should be changed to “hydrochloric acid”. In line 4 of claim 21, the word “and” should be inserted before the word “phosphorus”. In line 2 of claim 22, the word “reacting” should be changed to “reaction”. In line 2 of claim 23, the word “hydrochloride” should be changed to “hydrochloric acid”. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11, 12, 14, 17, 18, and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 is indefinite because it appears to incorrectly claim that the cracked gaseous hydrocarbons are substantially converted into gaseous hydrocarbons during cooling. It appears as if the gaseous hydrocarbons would be converted into liquid hydrocarbons during this step.

Claim 12 is indefinite because it is unclear to which cracking reactor the gaseous hydrocarbons are returned. If they are returned to the oven thermal cracking reactor, then the claim should recite this.

Claims 14 and 17 are indefinite because the expression “said gaseous hydrochloric acid” in lines 1 and 2 of claim 14 lacks proper antecedent basis in claim 13.

Claim 18 is indefinite because it is unclear to which cracking reactor the gaseous hydrocarbons are returned. If they are returned to the oven thermal cracking reactor, then the claim should recite this.

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Claim 24 is indefinite because of the expression "certain gaseous hydrocarbons that are not convertible at room temperature and pressure are led back to compensate the heating capacity of thermal cracking" in lines 4-6. It is unclear to where the hydrocarbons are led back (i.e., returned). If the hydrocarbons are returned to the oven thermal cracking reactor, then the claim should recite this.

***Allowable Subject Matter***

Claims 1, 2, 7, 10, 13, and 16 are allowed.

Claims 11, 12, 14, 17, 18, and 24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose or suggest a system or process as claimed which utilizes the combination of oven thermal cracking, catalytic cracking, and tubular continuous thermal cracking.

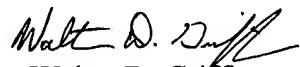
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is 703-305-3774. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

  
Walter D. Griffin  
Primary Examiner  
Art Unit 1764

WG  
November 13, 2003